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***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

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***PATENT***

In re application of: RAMIREZ et al.

Attorney Docket No.: FAS-003-US

Application No.: 10/758,845

Examiner: KNOX, Stewart

Filed: January 16, 2004

Group: 3641

Title: GUN CHAMBER

Confirmation No.: 6940

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**FILED VIA EFS**

**STATEMENT UNDER 37 CFR 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DATE: August 9, 2008**

Dear Sir:

I, Donald Wadsworth, hereby declare as follows:

1. I am the founding President and major shareholder of New World Environmental dba New World Technology (hereinafter "NWT"), a California corporation. I am also NWT's Senior Research Scientist.
2. I hold an B.S. in Engineering Technology from Oklahoma State University of Stillwater, Oklahoma, and an M.S. in Physics from San Jose State University of San Jose, California.

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1 of 5

3. I have extensive experience in the field of small arms weapon design and manufacture, with experience and training in firearms and their effects ranging from small arms to strategic weapons for the past 30 years. Prior to founding NWT, I was employed by the Department of Energy's Lawrence Livermore National Laboratory's weapons design division from 1981 to 1985. From 1972 to 1976 I was on active duty in the U.S. Air Force, and then from 1977 until 1980 I was in the U.S. Army Reserve. During this time I received extensive training in the application and maintenance of conventional infantry and support weapons.

4. I believe that the design of 50 caliber weapons, and in particular the gun chamber of these weapons, has been substantially unaltered since the introduction of the 50 caliber Browning Machine Gun (50 caliber BMG or M2) in 1917. It is also my belief that 50 caliber BMG based weapons, ranging from shoulder mounted weapons (e.g., Barrett) to much larger vehicular/air-frame/water-craft belt-driven weapons, are still in extensive use in today's modern militaries, including the US Army, US Navy, US Marines, US Air Force, US Coast Guard, and US SOCOM (Special Forces Command). The 50 caliber BMG class of weapons has also found widespread acceptance in both Federal and State law enforcement agencies, including the FBI, DEA, DOE, Border Patrol and many SWAT teams.

5. I believe that for any given caliber, there are infinite combinations of dimensions available to design a gun cartridge and a chamber for receiving such a cartridge. Such dimensions include chamber length, chamber diameter, chamber taper, necking degree and bore diameter. Hence determining a single optimal set of dimensions for a 50 caliber chamber, assuming one does exist, would be unduly burdensome, as this would require extensive and unreasonable experimentation, without any guarantee of success. Moreover, since the introduction of the 50 caliber BMG in 1917, many have assumed and accepted that firearms with large bore diameters are inherently inefficient and necessarily cumbersome, and changes in chamber dimensions alone would not reasonably be expected to result in an efficient 50 weapon design without substantially compromising bullet ballistic performance. However, the chamber design of the present invention (hereinafter referred to

as "HALO50") substantially eliminates the cumbersome weight and size of currently adopted 50 caliber weapons platforms as well as significantly improving or eliminating all the additional inefficiencies and disadvantages mentioned above.

6. I believe that the water weight, i.e., case volume, of a gun cartridge does not depend solely upon length and diameter of the cartridge. Contrary, it is my belief that other chamber dimensions, including bullet seating depth, cartridge taper, necking degree and length, cartridge wall thickness, primer wall thickness and extractor groove depth all have measurable influence upon the total water weight of the cartridge.

7. More specifically, the 50 caliber weapon and cartridge of the present invention is an innovative light weight system that offers great potential that will yield great benefits to the Departments of Defense (Army, Navy, Air Force, Marines, and Coast Guard) as well as Law Enforcement and other Government Agencies. In compliance with the goals of the Lightweight Small Arms Technologies Program (LSAT) which is a part of the Army-led Joint Services Small Arms Program (JSSAP), the HALO50 chamber presents innovative ideas for drastically reducing the combined gun and ammunition weight as a family of 50 caliber firearms that the Army has depended upon for nearly a century virtually unchanged. The HALO50 cartridge, resulting from HALO50 chamber, is 40% of the weight of the current 50 caliber BMG cartridge while delivering virtually 100% of the 50 caliber BMG performance when firing the standard mil-spec BMG 50 caliber projectiles needed for today's very challenging battle theaters.

8. I have personally fired a HALO50 prototype weapon chambered for the lightweight HALO50 caliber cartridge which utilizes the mil-spec BMG 50 caliber projectile. This fully functional prototype weapon is a bolt action rifle weighing only 19 pounds with a 28 inch barrel chambered to the HALO50 specifications. Measured recoil energy was significantly less than the maximum allowed mil-spec requirements for a shoulder mounted weapon of similar caliber.

9. Hence, I strongly believe there is an immediate and strong need for 50 caliber weapons and ammunition that exhibits significantly reduced overall length and weight, reduced recoil, low muzzle flash, reduced round weight, and increased overall efficiency. I am convinced that such weapons would aid military operations, significantly reduce logistical costs in manufacturing and delivery to a war zone, and ultimately save the lives of our troops. I believe that this need is longstanding given the historic and ongoing use of 50 caliber weapons. However, despite this long felt need, I believe that no weapon system has been produced that has the greatly improved combination of efficiency and compactness with logistical savings that is granted by HALO50 chamber and cartridge of the present invention.

10. It is also my belief that there has been ample expenditure of financing and research in such weapons design by the Department of Defense (DOD) of the United States Government. However, despite these ample resources, I believe that others have failed to produce a lightweight 50 caliber gun chamber design which fits standard bore diameters with the desired improvement in efficiency and capable of being adapted to multiple weapons systems for a vastly wider range of applications than is ever possible with the much larger and heavier 50 caliber BMG based weapons..

11. Additionally, I believe that given the urgent need of and keen interest expressed by military branches and law enforcement agencies for compact efficient large caliber weapon systems, there is clearly investor interest in commercializing firearms and ammunition utilizing the disclosed lightweight and highly adaptable HALO50 gun chamber, thereby ensuring its eminent commercial success.

12. I declare that all statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and all statements made herein are made with the knowledge that whoever, in any matter within the jurisdiction of the Patent and Trademark Office, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent

Application No. 10/758,845  
Statement Dated August 9, 2008

statement or entry, shall be subject to the penalties including fine or imprisonment or both as set forth under 18 U.S.C. 1001, and that violations of this paragraph may jeopardize the validity of the application or this document, or the validity or enforceability of any patent, trademark registration, or certificate resulting therefrom.

Respectfully Submitted,

August 8, 2008  
Dated           

Donald F. Wadsworth  
Donald Wadsworth